

**ABSTRACT**

A bus interface for transfer of SONET/SDH data that supports a plurality of SONET/SDH flows. The invention  
5 supports two line coding schemes: 8B/10B encoding of STS-12, and SONET scrambled coding for STS-12, STS-48, and STS-51. The invention additionally supports two modes of line testing: entire links can be tested by inserting and checking PRBS sequences, and the SPE payload of the largest  
10 concatenated STS-Nc which the link can carry (STS-12c, STS-48c, STS-51c) can be individually tested by inserting and checking PRBS sequences.